

**Diabetes Epidemic Follows Hepatitis B Immunization Program**  
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We have demonstrated that immunization starting at birth can prevent the development of diabetes in rodents and is associated with a decreased incidence of diabetes in humans<sup>1</sup> while immunization starting after 6 weeks is associated with an increased risk of developing insulin dependent diabetes in humans and rodents<sup>2</sup>. After a presentation of the data I was asked to evaluate the effect of a recent hepatitis B immunization program in New Zealand on the development of insulin dependent diabetes. It was found that a large epidemic of diabetes, 60% increase, occurred in New Zealand following this immunization program and believe the most likely explanation is that the immunization program caused the diabetes epidemic.

A massive hepatitis B immunization program was started in New Zealand in 1988. The program was phased in so initially children 5 or under were immunized but the program was extended over the next few years to include all children under 16. The acceptance rates were estimated to be above 70% (Personal communications, Dr. Harry Nicholls, Senior Advisor for Communicable Diseases, Ministry of Health, Wellington, NZ). Children born in 1988 and 1989 were immunized at birth however children born before or after this time were immunized after 6 weeks of age. Based on our previous data we would thus expect the immunization program to increase the risk of diabetes in all groups except those immunized at birth, thus an epidemic of diabetes would be expected. The only diabetes registry that exists in New Zealand, to the best of our knowledge, is in Christchurch<sup>3,4</sup> which has prospectively followed a group of approximately 100,000 individuals under 20 since 1982. The incidence of diabetes in this group prior to the hepatitis B immunization program (1982-1987) was 11.2 cases/100,000/ year (range 7.6- 13.2) while the incidence of diabetes following the immunization program (1989-1991) was 18.2 cases/100,000/year (range 16.4-21.7) (P=0.001). Data has not yet been published on the incidence of diabetes after 1991.

The hepatitis B vaccines have been noted in the package inserts and Physicians Desk Reference to cause several autoimmune diseases, and the FDA has gone on record that the hepatitis B vaccines cause the autoimmune disease alopecia (US FDA internet home page). The hepatitis B vaccine, as well as other vaccines, can potentially induce insulin dependent diabetes through the release of interferons since interferons have been implicated in causing autoimmunity including insulin dependent diabetes<sup>5-7</sup>. Based on this mechanism of action and earlier findings that diabetes epidemics have followed the widespread use of the Haemophilus

influenza B vaccine<sup>2</sup> it is expected that a second epidemic of diabetes will follow the Haemophilus influenza B immunization program that was started in New Zealand in 1993/1994. We hope that we can enlist the support of researchers in New Zealand to help us perform cohort epidemiology studies to substantiate our initial observations.

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